

Notice of Allowability	Application No.	Applicant(s)	
	09/886,178	WALLMAN ET AL.	
	Examiner	Art Unit	
	Chih-Ching Chow	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/1/06.
2. ☒ The allowed claim(s) is/are 1,3-8 and 10-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>2/22/05, 12/1/05, 01/10/05</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>7/7/06</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|--|--|

Examiner's Amendment and Statement of Reasons for Allowance

1. This action is responsive to Applicant's amendment filed May 1, 2006.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Ramin Mahboubian, Registration Number 44,890, on July 7, 2006 for putting the claims in condition for allowance.

3. The application has been amended as follows:

Claim 1. (Currently Amended) In a JAVA computing environment, including a JAVA virtual machine, a method of generating optional attributes in a JAVA class file, said method comprising:

receiving as input JAVA runtime environment optimization information indicating JAVA application bytecodes that are associated with JAVA objects of interest of the Java runtime environment, for the particular JAVA application;

generating one or more optional attributes for said JAVA objects of interest, based on said JAVA runtime environment optimization information; [[and]]

writing said one or more optional attributes in an attribute table portion of a JAVA class file[[,]] ; and

wherein said one or more optional attributes are processed by the JAVA virtual machine to optimize execution of the JAVA virtual machine for the particular JAVA application by controlling how the JAVA objects of interest of the JAVA runtime environment are treated during execution of the particular JAVA application.

Claim 11. (Currently Amended) An apparatus operable in [[In]] a JAVA computing environment that ~~including~~ includes a JAVA virtual machine, said apparatus comprising: a JAVA optional attribute generator ~~computer-implemented method~~ suitable for generation of optional attributes in a JAVA class file, wherein said JAVA optional attribute generator is further ~~computer-implemented method~~ operating operable to:

receive as input JAVA runtime environment optimization information indicating JAVA application bytecodes that are associated with JAVA objects of interest of the JAVA runtime environment, for the particular JAVA application;

generate one or more optional attributes for said JAVA objects of interest, based on said JAVA runtime environment optimization information; [[and]]

write said one or more optional attributes in an attribute table portion of a JAVA class file[[,]] ; and

wherein said one or more optional attributes are processed by the JAVA virtual machine to optimize execution of the JAVA virtual machine for the particular JAVA application by controlling how the JAVA objects of interest of the JAVA runtime environment are treated during execution of the particular JAVA application.

Claim 12. (Currently Amended) ~~A JAVA optional attribute generator~~ An apparatus as recited in claim 11, wherein said JAVA optional attribute generator ~~computer-implemented method operates~~ is further operable to generate computer program code that

implements an application programming interface suitable for loading said one or more optional attributes.

Claim 13. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 11, wherein an application programming interface can be used to read said one or more optional attributes from said JAVA class file.

Claim 14. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 11, wherein said JAVA runtime environment optimization information is stored in a database.

Claim 15. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 11, wherein said database is generated by a compiler extension or a software tool suitable for analyzing a JAVA application.

Claim 16. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 11,

wherein said database is stored in a runtime performance manager that can interact with software modules that generate and load said one or more optional attributes.

Claim 17. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 11, wherein said optional attribute ~~generator computer-implemented~~

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~~method operates~~ is further operable to update said database to reflect generation of said one or more optional attributes.

Claim 18. (Currently Amended) ~~A JAVA optional attribute generator~~ An apparatus as recited in claim 11, wherein said optional attribute generator ~~computer-implemented method operates~~ is further operable to generate a description of an optional attribute.

Claim 19. (Currently Amended) ~~A JAVA optional attribute generator computer-implemented method~~ An apparatus as recited in claim 18, wherein said description is in XML format.

Claim 20. (Currently Amended) A computer readable medium including computer program code for generating optional attributes in a JAVA class file for a JAVA computing environment including a JAVA virtual machine, said computer readable medium comprising:

computer program code for receiving as input JAVA runtime environment optimization information indicating JAVA application bytecodes that are associated with JAVA objects of interest of the JAVA runtime environment, for the particular JAVA application;

computer program code for generating one or more optional attributes for said JAVA objects of interest, based on said JAVA runtime environment optimization information; [[and]]

computer program code for writing said one or more optional attributes in an attribute table portion of a JAVA class file[[,]] ; and

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wherein said one or more optional attributes are processed by the JAVA virtual machine to optimize execution of the JAVA virtual machine for the particular JAVA application by controlling how the JAVA objects of interest of the JAVA runtime environment are treated during execution of the particular JAVA application.

Claim 28. (Currently Amended) ~~The JAVA optional attribute generator computer-implemented method~~ An apparatus of claim 11, wherein:

the optional attributes indicate to the JAVA virtual machine which objects of interest of the JAVA runtime environment need to be loaded for the particular JAVA application.

Claim 29. (Currently Amended) ~~The JAVA optional attribute generator computer-implemented method~~ An apparatus of claim 11, wherein:

the optional attributes indicate to the JAVA virtual machine that some JAVA objects are to be given special treatment at runtime.

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Examiner's Statement of Reason(s) for Allowance

4. Claims 1, 3-8, 10-31 are allowed.

5. The following is an examiner's statement of reasons for allowance:

The prior arts of record: **Cyran et al.**, teaches a code preparation system (12) which accepts input code (11) in intermediate code format, our source code format which is first translated into intermediate format, analyzes the intermediate code, then provides optimization information, hints, and/or directions (collectively referred to as "optimization information") for optimizing execution of the intermediate code by a code interpretive runtime environment, such as a Java Virtual Machine. **Li et al.**, teaches an extension to the JVM is described by which the efficiency with which applications are developed and transmitted between platforms is vastly improved. The object model of the present invention separates attribute data from an object which would otherwise be encapsulated therein. **Bates**, teaches a method of electronically conveying information using a first electronic document having a selectable link embedded therein (e.g., a hypertext link), wherein at least one presentation attribute is associated with the link, by presenting a second (linked) electronic document using the presentation attribute, in response to selection of the link. However, none of them, taken alone or in combination, teaches generating optional attributes in a JAVA class file, said method comprising: receiving as input JAVA runtime environment optimization information indicating JAVA application bytecodes that are associated with **JAVA objects of interest** of the Java runtime environment, for the particular JAVA application, generating one or more optional attributes for said JAVA objects of interest, based on said JAVA runtime environment optimization information, writing said one or more optional attributes in an attribute table portion of a JAVA class file, wherein said one or more optional attributes are processed by the JAVA virtual machine to optimize execution of the JAVA virtual machine for the particular JAVA application by controlling how the JAVA objects of interest of the

JAVA runtime environment are treated during execution of the particular JAVA application; in such a manner as recited in claims 1, 11, and 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Ching Chow whose telephone number is 571-272-3693. The examiner can normally be reached on 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Ching Chow
Examiner
Art Unit 2191
July 7, 2006

CC


WEI ZHEN
SUPERVISORY PATENT EXAMINER